

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 37 (canceled)

38. (currently amended) A thin film head having a reading part and a recording part comprising:

an upper magnetic pole having a first width at an air bearing surface and a second width which is larger than the first width at a first depth position from the air bearing surface;

a lower magnetic pole having a lower magnetic main layer, a lower magnetic pole front end portion on the lower magnetic main layer, and a projection step portion on the lower magnetic pole front end portion; and

a non-magnetic insulating layer on the lower magnetic main layer, which is formed at an opposite side to an the air bearing surface of the projection step portion;

wherein the projection step portion includes one portion which faces the upper magnetic pole, and another portion which is wider than the one portion at a predetermined depth formed so as to extend from a second depth position from the air bearing surface to a third depth position from the air bearing surface and having a part which does not face the upper magnetic pole, the another portion having a width which is wider than a width of the one portion of the projection step portion at the air bearing surface; and

wherein a distance from the air bearing surface to a ~~starting position~~ line of the another portion of the projection step portion the second depth position is shorter than a distance from the air bearing surface to the ~~air bearing surface side edge of the upper magnetic pole which faces the one portion of the projection step portion first depth position.~~

39. (currently amended) A thin film head according to claim 38, wherein the another portion of the projection step portion is formed at both ~~sides~~ sides of a track center line of the projection step portion.

40. (previously presented) A thin film head according to claim 38, wherein the width of the projection step portion in the track width direction at the air bearing surface is substantially equal to a width in the track width direction of the upper magnetic pole at the air bearing surface.

41. (currently amended) A thin film head according to claim 38, wherein a distance from a track center line of the projection step portion to an edge of the another portion of the step projection portion in track width direction at the second the predetermined depth position from the air bearing surface is greater than a distance from a track center line of the upper magnetic pole to an edge of the upper magnetic pole in the track width direction at the predetermined the second depth position from the air bearing surface.

Claim 42 (canceled)

43. (previously presented) A thin film head according to claim 38, wherein the another portion of the projection step portion has rectangular contours.

44. (currently amended) A thin film head having a reading part and a recording part comprising:

an upper magnetic pole having a first width at the air bearing surface and a second width which is larger than the first width at a first depth position from the air bearing surface;

a lower magnetic pole having a lower magnetic main layer, a lower magnetic pole front end portion on the lower magnetic main layer, and a projection step portion on the lower magnetic pole front end portion; and

a non-magnetic insulating layer on the lower magnetic main layer, which is formed at an opposite side to an the air bearing surface of the projection step portion;

wherein the projection step portion includes one portion which faces the upper magnetic pole, and another portion which is formed from a second depth position to a third depth position wider than the one portion at a predetermined depth from the air bearing surface and having a part which does not face the upper magnetic pole, the another portion having a width which is wider than a width of the one portion of the projection step portion at the air bearing surface; and

wherein a distance from the air bearing surface to the second depth position a starting position line of the another portion of the projection step portion is shorter than a distance from the air bearing surface to the first depth position, a position of an air bearing surface side edge of the upper magnetic pole where a distance from a track center line wherein widths of the upper magnetic pole in the track width

~~direction to the air bearing surface side edge position of the upper magnetic pole is  
are equal to a distance from the track center line of the projection step portion to a  
position on the starting position line from the air bearing surface to the second depth  
position.~~

45. (currently amended) A thin film head according to claim 44, wherein the projection step portion is formed at both ~~side-sides~~ of a track center line of the projection step portion.

46. (previously presented) A thin film head according to claim 44, wherein the width of the projection step portion in the track width direction at an air bearing surface is substantially equal to a width in the track width direction of the upper magnetic pole at the air bearing surface.

47. (currently amended) A thin film head according to claim 44, wherein a distance from a track center line of the projection step portion to an edge of the ~~wider-step  
projection another~~ portion in track width direction at the ~~predetermined-second~~ depth position from the air bearing surface is greater than a distance from a track center line of the upper magnetic pole to an edge of the upper magnetic pole in the track width direction at the ~~predetermined-second~~ depth position from the air bearing surface.

Claim 48 (canceled)

49. (previously presented) A thin film head according to claim 44, wherein the another portion of the projection step portion has rectangular contours.

50. (currently amended) A thin film head having a reading part and a recording part comprising:

an upper magnetic pole having a first width at an air bearing surface and a second width which is larger than the first width at a first depth position from the air bearing surface;

a lower magnetic pole having a lower magnetic main layer, a lower magnetic pole front end portion on the lower magnetic main layer, and a projection step portion on the lower magnetic pole front end portion; and,

a non-magnetic insulating layer on the lower magnetic main layer, which is formed at an opposite side of ~~an~~the air bearing surface ~~of the projection step portion;~~ and

a gap layer disposed between the upper magnetic pole and the projection step portion;

wherein a projection step portion includes one portion which faces the upper magnetic pole, and another portion ~~which is wider than the one portion formed at a predetermined~~second depth position from the air bearing surface and which extends to a third depth position from the air bearing surface, the another portion having a part which does not face the upper magnetic pole, the another portion having a width which is wider than a width of the one portion of the projection step portion at the air bearing surface; and

wherein a distance from the air bearing surface to ~~a starting~~the second depth position ~~of the another portion of the projection step portion~~ is shorter than a distance

from the air bearing surface to ~~a-the first depth position of an air bearing surface side edge of the upper magnetic pole which faces the gap layer.~~

51. (currently amended) A thin film head according to claim 50, wherein the projection step portion is formed at both ~~side-sides~~ of a track center line of the projection step portion.

52. (previously presented) A thin film head according to claim 50, wherein the width of the projection step portion in the track width direction at an air bearing surface is substantially equal to a width in the track width direction of the upper magnetic pole at the air bearing surface.

53. (currently amended) A thin film head according to claim 50, wherein a distance from a track center line of the projection step portion to an edge of the wider ~~projection-step-another~~ portion in track width direction at the ~~predetermined-second~~ depth position from the air bearing surface is greater than a distance from a track center line of the upper magnetic pole to an edge of the upper magnetic pole in the track width direction at the ~~predetermined-second~~ depth position from the air bearing surface.

Claim 54 (canceled)

55. (previously presented) A thin film head according to claim 50, wherein the another portion of the projection step portion has rectangular contours.